Bangladesh is living in high risk areas particularly for cyclones and floods. In an attempt to measure the level of health risks in these areas, a risk assessment model for the districts of Bangladesh has been developed by the Bangladesh Centre for Health Emergency Preparedness and Response (BCHEPR).

Methods: The model uses a number of indicators as determinants of vulnerability to public health emergencies: (1) Population density; (2) Under 5 years mortality rate; (3) Measles vaccination coverage rate; (4) Malnutrition rate of children under 5 year old; (5) Proportion of households with access to safe drinking water and sanitary latrines; (6) Proportion of people with incomes below the poverty level; (7) Proportion of people with access to health services; (8) Proportion of people without permanent households; and (9) Adult literacy rate. Based on the prevailing situation in the districts, the vulnerability is measured by computing a weighted index, and then each district is ranked for public health risks based on the computed score.

Results: Using data from the nationally representative sources, certain baseline standards and cut-off points for predicting public health risks in emergencies have been determined. These standards have been established based on past evidence as well as from international standards of best public health practice. The model is updated every year depending on the achievement of the districts in the selected indicators.

Conclusions: Application of this model can be used to identify the potential risk areas for public health emergencies whenever a natural hazard strikes the country. The model is used as a tool for assessing health needs in emergencies. By looking at the ranking of the districts in terms of vulnerability, the model offers opportunity for planning institutional measures that can reduce the public health risks of hazard-prone districts in Bangladesh.

Induction of Asthma in Susceptible Individuals Due to Changes in Weather Conditions

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In the Riverina region of southwest New South Wales, Australia, the occurrence of asthma epidemics is related to seasonal thunderstorms. During the last 15 years, there have been five such epidemics documented at the Wagga Wagga Base Hospital (a major non-metropolitan referral hospital) and in the surrounding areas. The most recent epidemic involved the management of 293 patients during a 24 hour period in seven different hospitals with 193 (65.9%) of these patients were managed at the Wagga Wagga Base Hospital. A number of innovative, predictive models have been developed that emphasize prediction algorithms based on interdisciplinary and interagency research.

The occurrence of epidemics of asthma has been shown to depend on the type of thunderstorm and the pollen load at the time of the storm. Longer range predictions depend upon proximal and distal climatic conditions. Subsequent research has shown that the vast majority of patients presenting during an epidemic are allergic to rye grass pollen who had not been diagnosed previously with asthma.

A number of innovative preventive public health strategies have been implemented in an attempt to reduce the number of patients presenting with asthma during thunderstorms. The Emergency Department, hospital, and area-wide responses are based on a specific medical modification of the area disaster plan.

An overview of thunderstorm asthma that will detail available predictive models and the resources required to respond to an overwhelming influx of medical patients over a wide geographic area with a variety of medical providers are presented.

Forum:
International Nursing

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Recommendations for Nursing Requirements at a Field Hospital Based on Israeli Defence Forces Field Hospital at the Earthquake Disaster in Turkey— August 1999

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Introduction: On 17 August 1999, an earthquake of 7.4 magnitude on the Richter Scale struck the Marmara region in Turkey causing an event resulting in massive casualties with an estimated 2,680 deaths and 5,300 injuries just in the city of Adapazari alone. A field hospital was set up by the Israeli Defence Forces at Adapazari, in order to provide temporary medical services until regular medical forces recovered. The aim of this paper is to provide an overview of the requirements of the nursing staff at a field hospital based on our experience, and analysis of the nursing activity at the field hospital at Adapazari.

Methods: The methods implemented include interviewing all nurses and many of the doctors who took part in the field hospital as well as a review of medical literature on disasters.

Results: An inverted nurse:physician ratio of 1:1.77 existed, as opposed to a 2.5–3:1 ratio in regular civilian hospitals. The nurses in this field hospital had to work longer and more intensive shifts than in a regular hospital. They also had to overcome language barriers and cultural differences, and faced difficult hygienic conditions.